University of Alberta

Program Evaluation of an Outpatient Seating Program

by

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A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the

requirements for the degree of Master of Science

Department of Occupational Therapy

Edmonton, Alberta
Fall 2005

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Abstract

An improvement oriented program evaluation was conducted in an outpatient seating program serving adults living in an urban area. This study elicited perspectives of the professional and technical staff about the program structure, processes, and outcomes. An important objective for the program was to ensure a: "Client is assigned to the appropriate clinic (commercial or custom) and is assessed in a timely manner". The processes related to this objective were referral, screening, and prioritization. These processes were said to fluctuate along a continuum between effective and ineffective depending on the impacting factors. The impacting factors were said to be the referral form, the referral agent, the composition of the seating team, the accuracy of referral information, the screener, and the prioritization method. Recommendations for how to maximize strengths and how to overcome weaknesses included: (1) revising the referral form; (2) accrediting therapists as referral agents; (3) developing and implementing screening guidelines; (4) offering commercial, custom, and combined seating clinics; (5) designating an experienced therapist to consistently screen referrals; and (6) developing and implementing prioritization standards.

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Introduction

In 2001, 2.5 million or 10 percent of Canadians over the age of fifteen had mobility problems (Cossette & Duclos, 2002). Consequently, many individuals required the use of seating and mobility devices. A seating device is a piece of equipment used to position an individual in a sitting position and a seating system is an assembly of seating devices used with an individual (Cook & Hussey, 2002; Hobson, 1990). A mobility device is a piece of equipment used to achieve locomotion and a seated mobility device is a piece of equipment, such as a wheelchair, in which an individual is sitting to achieve locomotion (Cook & Hussey, 2002; Hobson, 1990). Cook & Hussey (2002) described seating systems as forming an interface between the individual and their seated mobility device.

Seating Services

Seating services are most commonly provided by one professional, or a team of professionals, who are trained in occupational therapy, physical therapy, orthotics, or medical equipment service. Seating teams are often multidisciplinary combining the skills, knowledge, and expertise of different professionals. Seating services may be delivered in a variety of settings

including: (a) private homes, (b) continuing care facilities, (c) acute care hospitals, (d) rehabilitation centers, (e) medical equipment supply stores, (f) private clinics, etc.

Seating services typically provide assessments, education, interventions, and follow-up services related to seating devices and/or seated mobility devices. The seating systems provided may include commercial, custom fabricated seating devices, or a hybrid combining these types of seating devices (Cook & Hussey, 2002; Hobson, 1990). The seating systems may address clinical goals related to function, posture management, pressure management, and/or comfort. Additional information related to seating will be provided in Chapter 2 - Literature Review.

Study Purpose

The purpose of this research was to complete a process evaluation of a seating program. The evaluation aimed to identify program processes that required improvement and processes that were working well.

The Seating Program

This study examined an outpatient seating program located in a continuing care facility. The seating program served adults and seniors, with moderate to severe postural deformities, living in community or continuing care facilities. The seating program provided two types of seating: (a) commercial seating which included seating devices mass produced by manufactures (e.g., Invacare, Jay), and (b) custom seating which included unique seating devices designed and fabricated by a seating technician for an individual client.

Clients who required commercial seating were seen by a seating team comprised of an occupational therapist, a physical therapist, and a medical equipment supplier. Clients who required custom seating were assessed by an occupational therapist, a physical therapist, and a custom seating technician. Other health professionals (e.g., the referral agent) could also be involved in the assessment process.

The seating program was regulated and funded in part by the provincial government. Regulations imposed by the government included:

1. All program employees were required to complete a provincial seating education program.
2. At least one therapist must have minimum of two years experience in seating assessment and intervention.
3. At least one therapist must have experience with wheelchairs.
4. Funding for seating devices is subject to the provincial government's approval.
5. The provincial referral form should be used to access the program.
6. The provincial assessment form and assessment procedures should be followed for all clients.

The seating program provided services including assessment, education, intervention, and follow-up. Clients were seen by the program on a referral basis. Referrals could be made by health professionals, physicians, clients, or families. Clients were assigned to either a commercial or custom seating clinic appointment based on the referral information.

The seating clinics took place at one of three sites: (a) a medical equipment supplier retail site; (b) the seating program site; or (c) an alternate location in the community. The provincial assessment procedures and form were

completed with all clients. The assessment generally consisted of four parts an initial interview, a postural evaluation, a skin inspection, and body measurements. Once the assessment data were collected, the client's key problem areas were identified and collaborative goals were developed by the seating team.

Clients served by the program typically had intervention goals related to function, pressure management, posture management, and/or comfort. The seating interventions provided were commercial, custom, or hybrid seating systems. Three months after intervention occurred a follow up contact (e.g., telephone call) was completed with the client.

The seating program conducted a minimum of two clinics per week. Each clinic was approximately eight hours in duration and included four to six clients. One clinic per week focused on commercial seating devices and the second focused on custom seating devices. Other program activities, including the fitting of custom seating systems, paper work, and the completion of follow up occurred during the other three days per week.

Research Questions

This program evaluation was completed to answer three research questions: What are the perspectives of the stakeholders regarding the strengths and weaknesses of the:

(1) ***referral process*** used by the seating program?

(2) ***screening process*** used by the seating program?

(3) ***prioritization process*** used by the seating program?

Overview of Thesis

This thesis presents a program evaluation of an outpatient seating program. Chapter one outlined the purpose of the study, the research questions, an introduction to seating services, and a description of the seating program evaluated. Chapter two presents a synthesis of current research and literature related to seating and program evaluations. Chapter three details the methodology and research methods used in this study. Chapter four presents the research findings. Chapter five explores the implications of the findings, the methodological issues encountered, and directions for future research. Chapter six summarizes the research findings and the recommendations for improvements to this seating program.

Literature Review

Seating is a form of assistive technology that may apply to a diverse population across a multitude of settings. Seating involves the evaluation of many factors to obtain a holistic view of the client's needs. Over the past twenty years, the literature has primarily discussed seating related to four topics: (1) theoretical models, (2) assessments, (3) interventions, and (4) outcomes. There have been limited reports on seating services from a program evaluation perspective.

This literature review will begin by examining seating in relation to theory, assessment, intervention, and outcomes. Then, the program evaluation research related to seating will be explored. Last, directions for future research will be identified.

Theoretical Models in Seating

The theoretical foundation of seating originates from assistive technology models. In particular three models have been applied in the field of seating, namely: (1) the Matching Person Technology (MPT) Model (Scherer, 1994); (2) the Human Activity Assistive Technology (HAAT)

Model (Cook & Hussey, 2002); and (3) the Person Device Environment (PDE) Model (Stiens, 1998). These models represent a global, holistic approach to seating. These models outline the interrelationship between the assistive technology (e.g., seating device), the user, and the environment. In addition, the HAAT model illustrates the importance of the activity, task, or performance goal that the seating device is intended to satisfy.

The concept of 'matching' the seating device to the user is outlined as a key element of the seating process (Cook & Hussey, 2002; Hobson, 1990; Johnson Taylor, 1987; Minkel, 2003; Pratt, 2003; Presperin, 1989). In the process of 'matching' a client profile is generated based on assessment findings. This client profile summarizes the concerns or needs to be addressed by the seating system. The profile is used to 'match' the seating device characteristics to the client's needs (e.g., lateral trunk support). The final step in 'matching' is selecting the actual seating devices that will best suit the client.

Although holistic seating assessment has a sound theoretical basis, implementing this approach in practice can be challenging. One challenge can be the allocation of sufficient time due to diminished health care

resources. Programs or services may be pressured to abandon holistic assessment in favor of a less resource-intensive approach (Boudreau, 2001).

The absence of a multidisciplinary team also creates a challenge when attempting to complete a holistic seating assessment. Ideally, a seating team would include occupational therapists, physical therapists, skilled technicians, and the client. Each team member, including the client, brings expertise to the assessment process. The absence of a team member(s) may limit the collection of information from different professional perspectives and this may influence the team's overall understanding of the client.

Seating Assessment

A holistic seating assessment involves the evaluation of numerous factors including: the device, the user, the activity, and the environment. Seating assessment literature has primarily focused on methods to evaluate the seating user. In particular, the assessment of physical status, skin integrity, and comfort has been frequently reported in the literature.

(Bradley et al., 1986; Bergen et al., 1990; Cook & Hussey, 2002; Hobson, 1990; Johnson Taylor, 1987; Mattingly, 1993; Minkel, 2000; Pope, 1996).

Other factors of importance in the seating assessment include safety, psychosocial status, functional status, financial status, and the environment (Bradley et al., 1986; Cook & Hussey, 2002; Hobson, 1990; Johnson Taylor, 1987; Mattingly, 1993; Minkel, 2000; Pope, 1996; Pratt, 2003; Stiens, 1998). Population specific factors, such as the child's ability to play (Kangas, 2003) or an individual's ability to function in an institutional environment (Redford, 1993) are other important considerations.

Assessment of Physical Status

An assessment of physical status includes the evaluation of: (a) body size, (b) neuromotor factors, (c) skeletal deformities, and (d) gross motor and fine motor abilities (Cook & Hussey, 2002; Cutter & Blake, 1997; Hobson, 1990; Johnson Taylor, 1987; Mattingly, 1993; Waksvik & Levy, 1979; Winter and Waldermar; 1986). The assessment occurs with the individual positioned in his/her seated mobility device (e.g., wheelchair) and on a firm mat in sitting and supine positions. Range of motion at the pelvis,

spine, hips, knees, and ankles is evaluated. The presence or absence of skeletal deformities is noted, reflexes and motor skill are assessed, and body measurements are recorded. This approach is largely based on clinical observations and professional judgment. Consequently, it is common to see variations in this type of assessment. For example, the assessment of pelvic range of motion has been described differently by at least four authors including Cook & Hussey (2002), Minkel (2003), Pope (1996), and Pratt (2003).

A standardized measurement for physical status has been developed by Fife et al. (1991). The Seated Postural Control Measure (SPCM) is an objective instrument intended for use with children who experience neuromotor disabilities. The instrument uses a criterion referenced scale to guide the evaluation of twenty-two seated postural alignments and twelve functional movements in children. The aim of this tool was to yield reliable and valid measurements of posture pre and post seating intervention. However, early research (Fife et al., 1991; McDonald et al., 2003) has shown that the SPCM has a high degree of variability and poor interrater reliability. It has been suggested that the absence of standardized measurement procedures and variations in clinical

observations may account for the high degree of variability (Fife et al, 1991; McDonald et al., 2003). Continued research on the SPCM is indicated and development of valid and reliable instruments for pediatric, adult, and geriatric populations would be beneficial.

Assessment of Skin Integrity and Pressure

Skin integrity is a major concern for wheelchair users because immobility increases the risk of developing pressure ulcers (Braden, 2001). The assessment of pressure and skin integrity may involve skin inspection, assessment of wound cause, and/or interface pressure mapping. The literature gave vague descriptions of the methods used in skin inspection and the assessment of wound cause related to seating (Braden, 2001; Collins, 2001; Wagner et al., 1994), but included more information about interface pressure mapping.

Interface pressure mapping is an instrument that measures the pressure between a weight bearing surface of the body and an external surface, such as a wheelchair cushion (Cook & Hussey, 2002; Swaine et al., 2005). Interface pressure mapping may be computer-based using visual

displays, color images, and numerical values to represent the interface pressure on the tissues (Brienza et al., 2005; Cook & Hussey, 2002; Minkel, 2003; Swaine et al., 2005; Stinson et al., 2002).

The clinical applications of interface pressure mapping include comparison of support surfaces, evaluation of sitting and lying postures, and identification of anatomical sites under significant pressure loads (Brienza et al., 2005; Hutchinson et al., 2004; Minkel, 2003; Swaine et al., 2005). A further benefit of interface pressure mapping is that it provides valuable visual feedback to the client about pressure (Brienza, 2005; Hutchinson et al., 2004; Hutchinson & Orsted, 2003; Swaine et al., 2005). Research and clinical practice protocol development with interface pressure mapping are ongoing.

Assessment of Comfort

Comfort is a major concern reported by wheelchair and seating device users (Cook & Hussey, 2002; Crane et al., 2003) and it can be challenging to assess due to its subjective nature. In seating, the evaluation of comfort may involve the comparison of multiple subjective client reports. In an attempt to better measure wheelchair user comfort Crane et al.

(2003) developed the Wheelchair Seating Discomfort Assessment Tool (WCS-DAT). This tool uses sixteen unique indicators of comfort and thirteen unique indicators of discomfort for wheelchair users. There are plans to further examine this measure in order to establish validity and reliability.

Summary of Seating Assessment

Numerous perspectives on seating assessment have been outlined by clinicians and opinion leaders within the literature. Three important factors that should be examined within a comprehensive seating assessment include physical status, skin integrity, and comfort. The assessment of these factors may involve use of clinical strategies and/or standardized instruments.

An Overview of Seating Interventions

Hobson (1990) and Cook & Hussey (2002) described three seating categories based on the purpose of the seating intervention, namely: (1) seating for

pressure management; (2) seating for postural control and deformity management; and (3) seating for comfort.

Clients requiring seating for pressure management are individuals with decreased mobility and impaired sensation. As a result, these individuals are at increased risk for tissue breakdown (i.e., pressure ulcers). Seating interventions for this population may correct flexible deformities or accommodate fixed deformities with an overall goal of re-distributing pressures on the body to minimize the occurrence of pressure ulcers.

Individuals who require seating for postural control and deformity management lack the intrinsic forces (e.g., muscle control) needed to maintain an upright sitting posture. For this group, seating involves the application of seating devices to correct body alignment and to support or maintain body position.

The third category, seating for comfort, generally applies to individuals who require postural accommodation due to fixed deformities and members of the geriatric population. In general, the seating interventions may consist of postural accommodation and/or postural correction to achieve optimal comfort for the user.

Numerous seating interventions have been evaluated using clinical research yielding mixed outcomes (Bay, 1991; Bolin et al., 2000; Chandler & Knackert, 1997; Chen et al., 1990; Cron & Sprigle, 1993; Hughes et al., 1992; Humle et al., 1987; Kennedy et al., 2003; Koo et al., 1996; McInerney & McInerney, 1992; McPherson et al., 1991; Noronha et al., 1989; Olunwa, 1987; Olunwa, 1986; Presperin Pedersen, 2000; Rader et al., 1999; Seeger et al., 1984). The efficacy of seating interventions has been examined through program evaluations on a few occasions. These program evaluations will be discussed later in this chapter.

Anticipated Outcomes / Benefits of Seating

There have been extensive reports on the potential benefits of proper seating. These reports come from the perspective of opinion leaders in the field of seating and from the results of clinical research. The benefits of seating are summarized in Table 1.

Table 1. The Benefits of Seating

The Benefits of Seating (Bergen et al., 1990; Chen et al., 1990; Collins, n.d.; Hobson, 1990; Minkel, 2000; Pope, 1996; Roxborough, 1995)
1. Enhanced function
2. Normalization of tone and reflexes
3. Maintenance of normal skeletal alignment and control of deformities
4. Prevention of tissue breakdown
5. Increased comfort and reduced fatigue
6. Enhanced respiration
7. Improved oral motor and gastrointestinal function
8. Enhanced hand function
9. Increased potential for interpersonal interaction

Program Evaluations of Seating Programs

A total of six seating program evaluations have been reported in the literature. Of the six evaluations, two were needs assessments, two were outcome evaluations, one was a cost analysis, and one was an evaluation of program processes and outcomes. A brief summary of these seating program evaluations is provided in Table 2.

Table 2. Program Evaluation of Seating Programs

Authors	Evaluation Type	Evaluation Aim
Chisholm, 1998	Needs Assessment	1. To examine the preferences and needs of persons with development disabilities in British Columbia, Canada 2. To review current seating services and their ability to meet the needs of clients 3. To propose an optimal service delivery model
Lachmann et al., 1993	Needs Assessment	1. To identify the number of individuals who had seating devices 2. To evaluate the number of individuals who did not have seating devices, but actually required seating devices 3. To assess the demand for special power wheelchair controls
Datta & Ariyaratnam, 1996	Outcome Evaluation	1. To assess users' and therapists' views on the seating devices provided 2. To assess users' and therapists' views on the usefulness of the seating services
Collins, 2001	Outcome Evaluation	1. To evaluate if the specialist seating service in the United Kingdom met the needs of the population 2. To describe basic principles for seating 3. To provide guidelines for cushion and armchair selection
Mulvany & Likens, 1998	Cost Analysis	1. To assess the fiscal viability of the program providing seating devices 2. To determine program components which impact on program effectiveness, efficiency, and quality
McComas et al., 1995	Process Evaluation & Outcome Evaluation	1. To assess the users' and carers' views on the seating program and how it could be improved 2. To assess the users' and carers' views on the seating device received 3. To incorporate evaluation results into a client satisfaction survey for the seating program

Summary

The literature has addressed topics related to seating including theory, assessment strategies, intervention options, and the benefits of seating. A limited number of seating programs have been examined using program evaluation. Therefore, there is a need to generate more information, better understanding, and increased knowledge about seating programs, their operations and outcomes. In short, additional program evaluation research of seating programs is indicated.

Methodology - Program Evaluation

Today, more than ever, there is a focus on providing quality health services and programs to clients (Bate & Robert, 2002; Patton, 1997; Timmreck, 2003). However, the question of what constitutes program quality and how it should be measured has been widely debated. Factors that have been suggested as contributors to program quality include: program structure, program processes, program outcomes, and program economics (Donabedian, 1988; Letts et al., 1999; Patton, 1997; Rossi et al., 2004; Timmreck, 2003).

Program evaluation is one methodology used to assess program quality. Program evaluation can be defined as "... a systematic approach of research procedures to assess the efficiency, effectiveness, design and/or implementation of a programme" (Letts et al., 1999, p. 1) or "... the process of comparing an object of interest with an acceptable standard, as well as concern for effectiveness, efficiency and quality of activities, and performance" (Timmreck, 2003, p.186).

Assessment of Program Quality

One common dilemma encountered in program evaluation is which specific program component to evaluate. Donabedian recognized this dilemma over thirty years ago and at that time developed the Structure-Process-Outcome Model. This model is now a widely accepted approach to assessing program quality (Donabedian, 1988) by identifying and assessing program components (i.e., structure, processes, and outcomes) and their relationship to one another. The Donabedian Structure-Process-Outcome model has been applied in numerous quality assurance projects such as Barker and Girvin (1991), Closs and Tierney (1993), Handler et al. (2001), Howard (1994), and Tapaneeyakorn (2002).

Donabedian (2003) described program structure as "... the conditions under which care is provided" (p. 51), including materials, facilities, equipment, human and non-human resources, and organizational characteristics of the program. Program processes are described as "... the activities that constitute health care..." (Donabedian, 2003, p. 46), including diagnosis, assessment, treatment, rehabilitation, prevention, and education. Program outcomes are the "... changes (desirable or undesirable) in individuals or populations that can be attributed to health care" (Donabedian, 2003, p. 46), including changes in the recipients'

health, knowledge, behaviour, and/or the recipients' satisfaction or dissatisfaction with the care.

"Structure, process and outcome are not attributes of quality. They are only kinds of information one can obtain, based on which one can infer whether quality is good or not (Donabedian, 2003, p. 47)". To make inferences about quality the way in which structure influences process and process influence outcomes should be established for the program. The credibility of such judgments will depend on the certainty or probability of the relationships. Credibility may be enhanced by gathering information from individuals who are well versed in the program operations and those who have multiple, diverse experiences with the program.

> "We say such and such characteristic of process signify quality because we know (or believe) that they contribute to desirable outcomes. And, on the contrary, that such and such characteristics of process signify poor quality because they are known (or believed) to result in undesirable outcomes (Donabedian, 2003 p. 52)".

Program Evaluation Approaches

There are two main approaches to program evaluation, namely summative and formative. A summative approach examines the overall effectiveness, impact, or outcome of the program. It provides information about a program's worth and merit, and is often used to make decisions about continuing or terminating a program (Letts et al., 1999; Timmreck, 2003). A formative approach evaluates how a program operates, assesses its strengths and challenges, and gathers information to guide improvement of the program (Rossi et al., 2004).

In the past, emphasis had been placed on summative evaluation to justify the usefulness and effectiveness of programs. However, recently there has been increased use of formative evaluations with a focus on improvement. This change in approach is congruent with an overall movement toward continuous quality improvement (Bate & Robert, 2002). In the study presented here formative evaluation was used to assess program quality and gain direction for improving the seating program.

Types of Program Evaluation

Numerous types of program evaluation exist to serve different purposes and to answer different research questions. On occasion, more than one type of evaluation may be required to adequately assess a program. The key is to select the type of evaluation that will most effectively obtain the desired information about the program to investigate the research question. Table 3 summarizes seven different types of program evaluations including descriptions and typical research questions.

In this study, an assessment of program processes was undertaken to evaluate the strengths and weakness of seating program processes. The two ways to assess program processes are process evaluation and process monitoring. The key difference between the two methods is that process monitoring is ongoing and continuous; whereas process evaluation provides a "snapshot" view of a program at one moment in time. Process evaluation, was used in the thesis presented here.

Table 3. Types of Program Evaluations

Type	Description (Letts et al.,1999; Rossi et al., 2004; Timmreck, 2003)	Typical Research Questions
Needs Assessment	Assesses the need for the program, identifies gaps between populations needs and available services / programs	What are the needs of this population with regard to xxxx (e.g. pain management)? What are the currently available resources and services? In what ways do the currently available services meet the needs of the population and in what ways do they not meet those needs? How can unmet needs be provided for?
Evaluability Assessment	Describe the goals, activities, and resources of the program, and establishes indicators for goal achievement	What are the key indicators of satisfactory performance for the program as identified by xxxx stakeholder group?
Process Evaluation	Assessment of how a program is delivered and measurement of the strengths and challenges in the program operations at one moment in time	What processes need to be strengthened and which need to be changed to improve xxxx (e.g., the time to the response, number of patients seen, satisfaction with the program, etc.)?
Process Monitoring	Ongoing, systemic, continual review of the program performance, operations and administrative activities	To what extent are the performance indicators of the program being met?
Outcome Evaluation	Assessment of the results or consequences of the program interventions or activities	To what extent has the program achieved its intended outcomes?
Impact Evaluation	Examines the extent to which the treatment leads to the intended outcome	What is the overall impact of the program on the given population in terms of xxxx (e.g., reducing the number of seniors being admitted to hospital following a fall)?
Efficiency Evaluation	Verifies if the same treatment outcome could be obtained in a more efficient, cost effective manner	Is the program cost effective when compared to xxxx (e.g., hospital admission)?

Program Evaluation Methods

The development of a program evaluation, like other research, follows a sequence of steps including selection of: (a) evaluation questions, (b) study design, (c) sampling strategy, (d) data collection methods, and (e) analysis procedures (Fitzpatrick et al., 2004). These steps were followed in this program evaluation.

Program evaluation can use quantitative and/or qualitative methods. The method chosen should suit the research question. Use of quantitative methods is appropriate when a body of knowledge already exists, when an issue is specific and concrete, and when a judgment is desired (Clark-Carter, 2004). Conversely, issues suitable for qualitative investigation tend to be complex and emergent in nature (Hurley, 1999). In addition, qualitative methods are a powerful and versatile way to clarify issues that have contradicting perspectives (Shortell, 1999). The use of mixed methods in program evaluation is driven by a need for more information than a single method could yield. In such a case, the second method used should fill the void left by the first method (Fitzpatrick et al., 2004).

Quantitative methods are used to yield a judgment and often prove or disprove a hypothesis. Quantitative inquiry draws on objective, scientific,

numerical data in a systematic, unbiased way. This type of research uses robust sampling methods, standardized data collection procedures and is concerned with validity and the reliability of the research findings (Blumenthal & DiClemente, 2004). Data are analyzed using statistical computations to determine levels of significance and interpreted to form a judgment.

In contrast, qualitative methodology is interested in participants - as experts – who can share experiences, perspectives, and meaning about an issue (Blumenthal & DiClemente, 2004; Mays & Pope, 2000). Qualitative methods lend themselves to the development of a holistic, comprehensive understanding of an issue, and not to a stance of judgment (Blumenthal & DiClemente, 2004). Sources of data for qualitative research may include: observations, questionnaires, interviews, document analysis, focus groups, etc. The data are commonly recorded and transcribed and are analyzed using content analysis where codes, categories, and themes are identified (Blumenthal & DiClemente, 2004; Mayan, 2001). This study used qualitative methods to gather and analyze program data to gain an understanding of the strengths and weaknesses of processes used in the seating program.

Program Evaluation Participants

In program evaluations, the participants are selected from a target population called stakeholders. Stakeholders are individuals who are in some way involved with the program (Rossi et al., 2004). Stakeholders may include program users, program employees, administrators, funding agencies, etc. When conducting a program evaluation it may not be feasible to involve all stakeholders; therefore, sampling may be required. The sampling method used should agree with the study design and research method chosen. The study presented in this thesis used a purposive sample of program employees. The employees were selected because of the important, rich, and possibly differing perspectives they could share about the seating program.

Summary

Program evaluation has become a common methodology in the assessment of program quality. Program evaluations can take on different styles, serve many purposes, and employ qualitative and/or quantitative methods. The study presented here used a formative approach to a program process evaluation. This evaluation incorporated Donabadien's Structure-Process-Outcomes Model and qualitative research methods.

This evaluation collected data from a purposive sample of program stakeholders.

Research Method

Qualitative methods were used in this study to gather participants' insights, experiences and perspectives on the seating program. The Donabedian Structure-Process-Outcome Model was used with participants to establish the seating program components and their relationship to one another. This information became the foundation for discussing the strengths and weaknesses of the program processes.

Obtaining Program Endorsement

To recap: this evaluation involved an outpatient seating clinic program, which served adults and seniors with moderate to severe postural deformities. The seating program provided assessment, education, intervention, and follow-up services. The seating systems provided by the seating program were commercial, custom, or hybrid.

In preparation for the study, the researcher met with the seating program leader and the chairperson of the facility's research and design committee. The purpose of this meeting was to explain the proposed study. At the end of the meeting, permission was granted for the program evaluation to

occur pending the study's approval by the Health Research Ethics Board (HREB).

The Seating Program Stakeholders

The target population for the study included program stakeholders, who are described as "people who have a stake – vested interest – in evaluation findings" (Patton, 1997, p.41). Stakeholders of the seating program were identified as the program employees, clients and families accessing the program, referral agents, and funding sources. Of those identified, only program employees were selected as participants for the study. This subset of stakeholders was chosen for their in-depth knowledge of the program's procedures, of which other stakeholders would have little or no knowledge, and their ability to give insight into the processes and operations based on multiple experiences of different clients and situations. Such awareness and expertise has the potential to provide operational judgments. Specific inclusion criteria were:

1. Full time, part-time or casual employee of the seating program, **and**
2. Occupational therapists, physical therapists, or seating technicians employed with the seating program

In order to keep the study focused and manageable within the confines of the available resources other stakeholders were not included. Exclusion criteria were:

1. Past employees of the seating program
2. Clerical and administrative employees with the seating program
3. Clients, families and caregivers
4. Referral agents
5. Funding representatives

Recruitment of Sample

Based on the inclusion and exclusion criteria seven stakeholders were eligible for the study. Stakeholders were recruited using the following procedures:

1. Eligible stakeholders were approached by the program leader. The program leader provided participants with a letter of information / consent form (see Appendix A) outlining the program evaluation details.

2. Each participant was asked to review the form, then sign and return it by mail if he/she wished to participate in the study. At the same time,

each participant was given a paper and pencil questionnaire to be completed and returned by mail.

3. Once informed consent was obtained, each participant was contacted and a convenient date, time and location to conduct an interview arranged.

Obtaining Informed Consent

Informed consent was obtained from participants using a letter of information / consent form (see Appendix A) as approved by HREB. The letter was written at a Flesch Kincaid Grade Level of 8.6. The letter included details on the study purpose, data collection procedures, and expected time commitments. Information was outlined regarding the potential benefits and risks of the program evaluation. In addition, the letter made it clear that stakeholders were not obligated to participate in the study and/or could withdraw at anytime without consequence. Contact information for a university representative (who was not involved in the study in any capacity) was given indicating that this individual could be contacted should concerns arise about the study.

The Sample

The actual number of participants successfully recruited was seven out of a seven. An eighth stakeholder initially met the inclusion criteria, but by the time the study received ethical approval he/she had left the program. The demographic characteristics of the participants included in the study are summarized in Table 4.

Table 4. Characteristics of Study Participants

Characteristic	# of Participants
Gender	
Male	5
Female	2
Position with Program	
Occupational therapist	1
Physical therapist	1
Custom seating technician	2
Medical Equipment Supplier	3
Education / Experience	
Graduate degree	1
Bachelor degree	2
Technical diploma	1
On the job training combined with skill based workshop(s)	3
Time with Program	
5 months	1
7 months	1
5 years	1
6 years	2
8 years	2

Overview of Data Collection Methods

Qualitative methods were used in this study. Data collection involved a simple paper and pencil questionnaire and an interview. The questionnaire data were collated and used as the focus of the subsequent interviews. The interviews were used to gain insight on the program processes.

Questionnaire Format & Procedures

The questionnaire (see Appendix B) used an open-ended question format and was designed to take approximately ten minutes to complete. The questionnaire was intended to identify program outcome perceived by stakeholders as needing improvement. On the questionnaire the following question was asked:

- ***Please name and briefly describe 3 program outcomes for the seating program that you think are important and which could use improvement.***

All seven stakeholders received a questionnaire at the time of recruitment. All questionnaires were completed and returned to the researcher. The data from the questionnaires were collated and the most commonly reported program outcome was found. Working backward from this point, the

processes and structure that participants perceived as related to the program outcome were described.

Interview Format & Procedures

Qualitative interviews (see Appendix C for Interview Script) were conducted with each participant at a date, time, and location of his/her choice. On average the interviews lasted forty-five minutes. All interviews were tape recorded and later transcribed. The interviews followed a semi-structured design with open-ended questions. The interview questions were pilot tested with a colleague and revised to improve question clarity and interview flow.

The interviews consisted of three parts: (1) introduction and demographic questions; (2) an exercise based on Donabedian's Structure-Process-Outcome Model; and (3) questions related to strengths and weaknesses of program processes. Part 1 of the interview included an introduction, verification of informed consent, and demographic questions. The demographic questions were asked early in the interview to engage the participant and to ease him/her into sharing his/her perspectives of the program processes.

Part 2 of the interview involved the completion of on exercise based on Donabedian's Structure-Process-Outcome Model. The exercise was used to gain insight into the program components and their relationship to one another. The steps of this exercise were first explained in detail to the participant. The exercise included the use of an exercise form (see Appendix D). During the interview the researcher completed the form based on participants' comments.

Part 3 of the interview included open-ended questions intended to elicit information about perceived strengths and weaknesses of the program processes. Each participant was asked a series of open-ended questions, given time to consider each question, and offer a response. Probe questions were used when necessary to elicit more information than was volunteered in the first reply (Sharma, 2004).

Interview Data Analysis

The interviews were tape recorded and then transcribed by a transcription typist. To verify transcript accuracy, the interview transcripts were compared to the audio tapes by the researcher. The audio tapes and transcripts are

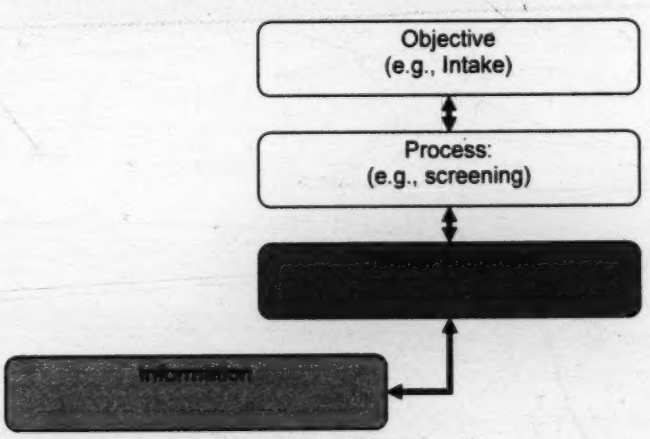
now stored in a secure, locked filing cabinet at the University of Alberta, and will be kept for at least five years.

Interviewed data were analyzed using qualitative content analysis. This analysis process involved multiple interconnected phases, and the process was often cyclical. The phases of the data analysis process are listed here and illustrated in Table 5. First, the interview transcripts were read and re-read to obtain an overall impression of the data. Second, the data were reviewed and codes identified. Third, the codes were organized into clusters and then reviewed, revised, and re-organized, to ensure accuracy and completeness. These three phases were repeated until analysis of the data was exhausted, so that no new codes or clusters were identified. The study findings will be presented in the Chapter Four – Research Findings.

Table 5. Sample Data Analysis

Phase	Example of Analysis
Data Review	All seven interview transcripts were read and re-read.
Coding Sample Codes: • referral form • [redacted] • [redacted] • seating devices	I try to get as much [redacted] as I can from the referral. Check what the client has had before, components that the client has had before, and then I use that to [redacted]. The referral form is probably the most important part of [redacted].

Table 5. Sample Data Analysis (continued)

Phase	Example of Analysis
Clustering	**"Making a Clinical judgment"** Check what the client has had before, components that the client has had before, and then I use that to [redacted]. The referral form is probably the most important part of [redacted]. **"The referral form"** The referral form is probably the most important part of [redacted]. I try to get as much information as I can from the referral. **Memo #1:** Clinical judgment is part of the screening process, and screening is related to intake **Memo #2:** Referral form information is reviewed during screening and is the basis of clinical judgments **Visual Representation:** The interrelationship between the clusters, processes and objective, as described by participants 

Study Trustworthiness

To evaluate the trustworthiness of this program evaluation the Program Evaluation Standards developed by the Joint Committee on Standards for Education Evaluation (1994) were considered. These standards outlined four categories of program evaluation standards including: (1) utility, (2) feasibility, (3) propriety, and (4) accuracy. Steps taken to enhance each standard will be discussed below.

Utility

The utility of the program evaluation was enhanced through early collaboration with the seating program leader. This collaboration helped in the identification of an evaluation focus and assisted in the identification of program stakeholders. The research findings were reported to the program in a timely manner, in the form of oral presentation and a written document. In addition, the entire evaluation was over-seen by a team of researchers, who included an academic program evaluator with experience of clinical evaluations.

Feasibility

The primary researcher's knowledge of the program's daily operations, politics, and time constraints helped make the evaluation feasible. Specifically, data collection methods (e.g., questionnaire, interview) were selected that kept time commitments to a minimum and ensured each participant had opportunity to anonymously share his/her perspectives. Fair and equitable treatment was given to the subset of stakeholders included in the study, and both common and uncommon perspectives were reported in the evaluation findings.

Propriety

This program evaluation obtained ethical approval from HREB at the University of Alberta. Issues of informed consent, conflict of interest, and human rights were examined by the HREB and approved for this study. This evaluation offered a complete and fair assessment so that strengths and weaknesses of the seating program were examined.

Accuracy

To improve evaluation accuracy, the seating program involved was described in detail. Furthermore, the purpose, data collection procedures, and analysis procedures are clearly reported for this evaluation and provide sufficient detail

to allow the evaluation to be recreated. Data analysis procedures are explained in depth so data interpretation can be understood, and the trustworthiness of the research findings is apparent.

Summary

This program process evaluation used qualitative methods. Data were collected using a simple paper and pencil questionnaire and an interview. The data from the questionnaire were collated and used to guide subsequent interviews. The interviews incorporated the Donabedian Structure-Process-Outcome Model and open-ended questions related to the strengths and weaknesses of the program processes. Interview data were analyzed using qualitative content analysis. The findings of this evaluation will be reported in Chapter Four – Research Findings.

Research Findings

This program evaluation explored the perspectives of a subset of program stakeholders related to the seating program structure, processes, and outcomes. The findings for this study are presented in three parts: (1) the program outcomes viewed by participants as important and as needing improvement; (2) the relationship between program structure, processes and outcomes; and (3) the participants' perspectives on the strengths and weaknesses of the program processes.

(1) Program Outcomes Viewed by Participants as Important and as Needing Improvement

The findings showed five areas in which program outcomes were important and could be improved. In rank order from most reported to least reported these areas are: (1) intake, (2) intervention, (3) follow-up, (4) assessment, and (5) the overall program. Seven out of seven participants reported outcomes related to 'intake' as needing improvement. For participants 'intake' included:

> "... the ***referral*** itself ..."
>
> "***Getting clients into the clinics*** ... ..."

"... ***screening*** of clients... "

The perspectives of the participants were amalgamated and found to describe a specific target or objective for the program, rather than a program outcome. This objective was a: "Client is assigned to the appropriate clinic (commercial or custom) and is assessed in a timely manner". This objective was the starting point for further exploration of the program.

(2) The Relationship between Program Structure, Processes, and Outcomes

The Donabedian Structure-Process-Outcome Model (1988) was used as a framework for discussion of intake - the area unanimously reported to need improvement. Working backward from the objective, the related processes and structure were described and the projected relationships between components were established. The findings from the discussion are reported in Table 6. This table lists the human and non human resources and the processes that are involved in intake.

Table 6. Seating Program Structure, Processes, and Outcomes

Program Area: Intake		
Program Structure	**Program Processes**	**Program Outcomes**
Non Human Resources: - Referral form - Method to deliver referral form to program (i.e., fax, mail, drop slot) - Method to receive referral form (i.e., fax, mail, drop slot) - Seating program office space - Communication devices (i.e., telephone, voicemail, and email) - Seating program file, data base(s) and/ or spreadsheet(s) - Provincial tracking system for equipment - Photographs of client (when available) **Human Resources:** - Referral agents - Seating Program Occupational Therapist - Seating Program Physical Therapist - Custom Seating Technician - Medical Equipment Supplier - Seating Program Administrative Assistant - Seating Program Relief Staff - Provincial Government Funding Program Representative	**Referral Processes:** 1. Referral agent recognizes a need for a client to be referred to seating program 2. Referral form is filled out by referral agent 3. Referral form is faxed, mailed or dropped off to the seating program by referral agent **Screening Processes:** 1. Referral is screened by the program occupational therapist or physical therapist 2. Program occupational therapist or physical therapist(s) collects additional information as needed from alternative sources 3. Program therapist formulates a clinical judgment to assign the client to either a commercial or custom seating clinic a. If client is assigned to a commercial clinic, he/she is assigned to the medical equipment supplier of his/her choice **Prioritization Processes** 1. Client is prioritized according to date referral received or another method	**Intake Objective:** Client is assigned to the appropriate clinic (commercial or custom) and is assessed in a timely manner

(3) Strengths and Weaknesses of Intake Processes

After identifying the connections between the program components, participants discussed their perspectives on the strengths and weaknesses of the intake processes. The processes that occurred when working toward the program objective were: (A) referral, (B) screening, and (C) prioritization. These three processes were felt to fluctuate along a continuum between effective and ineffective. This continuum is represented as a seesaw. A process can sit centrally on the seesaw representing neutrality, or it may move along the seesaw depending on the impacting factors. For example, if many positive factors influence the process it will move toward the end representing effective process (see Figure 1). Conversely, if many negative factors influence the process it will move to the end representing ineffective process (see Figure 2).

Figure 1. The Result of Positive Factors on the Intake Process.

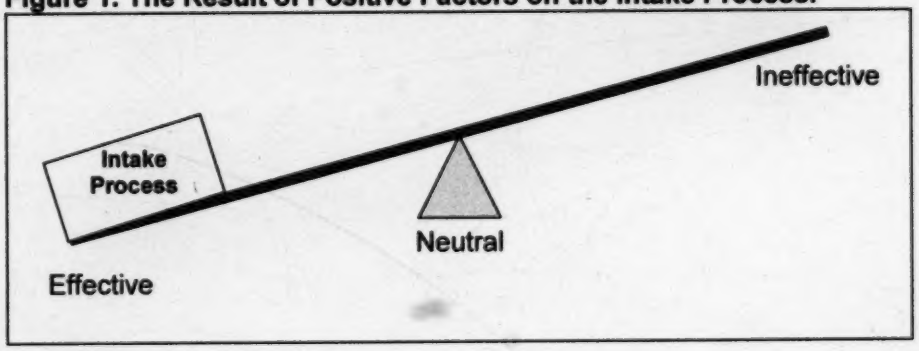
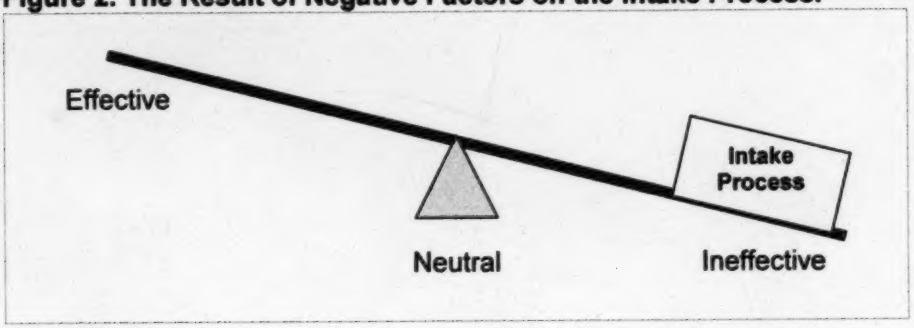


Figure 2. The Result of Negative Factors on the Intake Process.



The seesaw will be used to illustrate how a variety of factors can influence the: (A) referral process, (B) screening process, and (C) prioritization process.

A. The Referral Process

A number of factors were said to influence the referral process. These can be grouped as: (i) factors relating to the referral form and (ii) factors pertaining to the characteristics of the referral agent.

Ai. Factors relating to the referral form

The referral form is a two page document that is completed by the referral agent and submitted to the program as a method of requesting services. This form provides crucial information on which the program judges

whether to assign the client to a commercial or a custom clinic.

Participants thought that revisions to the referral form could increase its effectiveness.

> I think the referral form has a lot of good qualities, and maybe needs to be fine tuned ...
>
> Basically, we need updated referral forms ... I think if referral forms are filled out properly and updated then that would help resolve a lot of the issues down the line with the process to do with screening and prioritization and allocation and all of that. I think improvement would start there.

Participants suggested that the items included in the form should be changed, so that more useful items are emphasized and extraneous sections are removed. One participant said:

> I believe the form should be up to date, readable, have information that needs to be on it and not extraneous information ...

Another participant also reported concern with the redundant information requested on the referral form.

> The form asks for the client's weight, but it is always re-checked at the clinic appointment anyway, and there's a spot for a physician's signature but it is not really needed ...sometimes I wonder how much time is spent trying to sort out unnecessary information

Participants felt that the referral form was too time consuming to complete.

> "All therapists are very busy, so to fill out a two-page form and to check the [equipment status] and to [get] all the background information, probably takes quite a bit of time. Doing seating for a lot of referring therapists is extra work on top of what they are already doing..."

The findings suggest that the less useful sections and redundant information should be removed from the referral form. The consequence of removing sections would be a reduction in the length of the form, which participants felt would speed completion of the remaining sections. Table 7 lists the referral form sections and those that participants thought were more and less useful.

Table 7. Referral Form Sections

Referral Form Sections	More Useful	Less Useful
1. Demographic & Contact Information	X	
2. Medical Status - *E.g., diagnosis, prognosis, medications*	X	
3. Funding Status		X
4. Seating Concerns	X	
5. Positioning - *E.g., time spent in wheelchair, affect of positioning on function*		X
6. Activities of Daily Living - *E.g., communication method, transfers, mobility*		X
7. Seating Status - *E.g., current seating device(s) and date received, seating device(s) trialed*	X	
8. Wheelchair and Base Status - *E.g., current mobility device(s), including dimensions and condition*	X	
9. Preferred Medical Equipment Supplier	X	
10. Physician's Signature		X

Currently photographs of clients are not required as part of the referral; however, participants agreed that photographs were helpful as they provided a visual impression of the client's seating needs. The value of photographs is described in these statements:

> If the client can not be in front of you, then having a picture is the next best thing...
>
> I noticed in the past some referrals actually had photographs or snapshots [attached] and that was a big help to determine which clinic the client needed

None-the-less participants realized that it may be impractical to require photographs as referral agents may not always have access to cameras.

Participants also thought only original copies or clear and legible photocopies of the referral form should be used to ensure clarity and accuracy.

Aii. Factors pertaining to the characteristics of the referral agent

The referral agent is the individual who submits the referral form to the seating program. The seating program accepts referral forms from: (1)

clinicians (i.e., occupational therapists, physical therapists, or nurses) from home care, long term care, or acute care; (2) physicians, (3) family members, (4) caregivers, and (5) clients. Participants reported that different referral agents provide varied referral information, as explained in these statements:

> It doesn't work well if the referral form is not filled in by a therapist. ... sometimes clients don't have a therapist working with them, [and then] we get a doctor referring a client to the seating clinic. In that case we don't get good information. Sometimes a client will fill out the referral form himself, and in that case we don't get good information ... . The opposite is true for what works well. If the therapist fills in the form and if a therapist has been working with the client for a long time, that also helps because the therapist would be aware of has what's going on with the client...

> Unfortunately all the referring therapists don't have as much knowledge as we would like them to have. I feel that at times, if the therapists had a little more knowledge, they would have realized what the client needs ...

Table 8 lists the characteristics of an ideal referral agent as described by the participants. It was felt that the referral process would be improved if the majority of referral agents possessed these characteristics.

Table 8. Characteristics of an Ideal Referral Agent

Characteristics of an Ideal Referral Agent
1. Therapy background (i.e., professional training in occupational therapy or physical therapy) "The form is actually designed for a therapist to fill, because it has technical questions that only a therapist will be able to fill out..."
2. General understanding and knowledge of seating devices and wheelchairs "I'd say that the therapists that are referring are quite knowledgeable...in general are quite knowledgeable about the seating, and that's important"
3. Knowledge and experience needed to identify seating and mobility concerns "They're going to have to identify the need...and use their own expertise as a therapist to try and get a rough idea whether [clients] need to come to our clinic or not. "
4. Familiarity with the seating program including the services offered and is able to complete the entire referral form. "If we look at who is referring and how well the referral has been filled. If it's not filled well, then that's going to be a problem for us." "If a referral could be filled by a therapist, and not just being filled by a therapist, but actually [one who] takes time to fill the referral...that would help."

In summary, the referral process may be influenced by factors related to the referral form and/or the characteristics of the referral agent. Depending on the influence of these factors, the referral process may shift its position on the continuum (see Figure 3 and 4).

Figure 3. An Effective Referral Process.

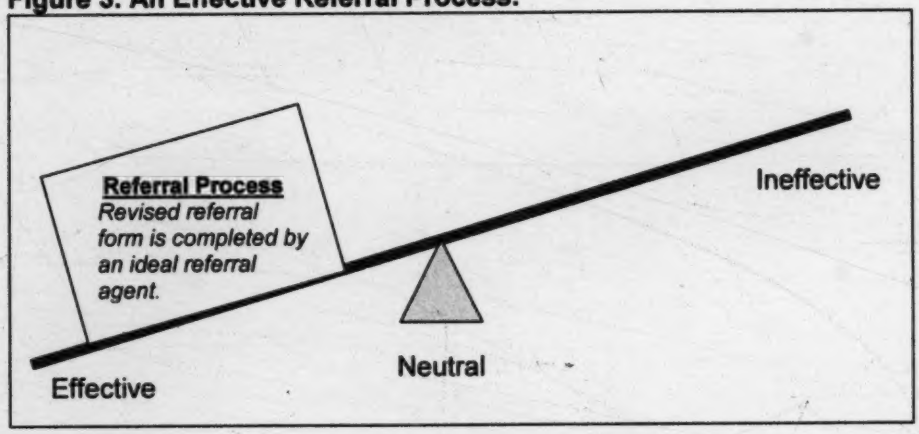
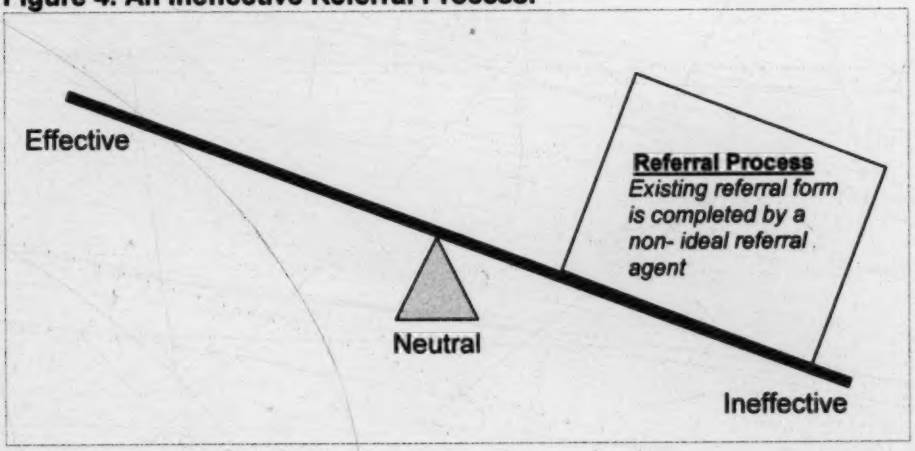


Figure 4. An Ineffective Referral Process.



B. The Screening Process

Screening was described by participants as the process of reviewing referral information and making a clinical judgment to assign a client to a

commercial or a custom clinic. Participants made the following comments about the screening process:

> The ***information on the referral form*** is the most important factor in the screening process.
>
> Choosing the appropriate type of clinic should be easy with **correct referral information** provided.
>
> The ***ideal screening process*** is when the client is right in front of you... then the more remote you get the harder it can be.

Screening errors were described as the assignment of clients to the wrong clinic and this was a major concern for the program. Participants described the consequence of screening errors as inefficient use of program services, increased wait times, and inconvenience for clients, as expressed in this comment:

> If a client is seen in [commercial clinic] and we decide at the clinic that this should be custom, then we'll bring the client back to a custom clinic....When we consider the client's comfort... of having to come in twice, it might not be too nice for the client, and that is not time saving, because we might [have] seen another client at that time, but instead we've seen that same client again.
>
> In a case where the client needs both commercial and custom clinic then there is nothing we can do about it. We just have to go that way, but if it's entirely a custom need and we see the client in commercial clinic, the [error] could have been easily solved if the referral form was well done.
>
> If we see the client at a custom clinic and we decide that no this [client] should have gone to commercial... in that case, it was not as bad in the sense that we can talk to the [medical equipment supplier] to say okay try to go to this clients home and trial this particular back on this client. And if it works out well, then if a

> therapist is also available to really see that it's working well...then you don't have to see the client in clinic again.
>
> It's better for a client to come to custom and maybe get commercial eventually, then for clients to go to commercial and then get custom later

The screening process was stated to be influenced by a number of factors. These can be grouped as: (i) factors concerning the composition of the seating team, (ii) factors regarding the accuracy of the referral information, and (iii) factors pertaining to 'the screener' and his/her clinical judgment.

Bi. Factors concerning the composition of the seating team

Commercial and custom clinics involve different seating team members. Specifically, a medical equipment supplier is present at the former, and the custom seating technician at the latter. One participant commented: "the only missing piece is the technician; the therapists are there [at both]". A combined clinic, involving both the medical equipment supplier and the custom seating technician, was suggested as a solution to screening errors:

> "If you weren't screening for commercial or custom, perhaps if we had combined clinics, then the decision (for commercial or custom seating) wouldn't have to be made until the person started into clinic."

However, the participants reported that combined clinics may not feasible for the program due to staffing and funding restrictions.

Bii. Factors regarding the accuracy of referral information

Participants repeatedly indicated that accurate and complete referral information was crucial in the screening process. The findings show that good information is required to make an informed clinical judgment. Statements from two participants sum up this feeling:

> What makes a good referral is good information, and the opposite is true for what makes a bad referral ... when the information is not there.
>
> It's easier for the therapists to determine the type of clinic when the form is [fully] completed and there is a lot of information on there. When it's not completed well, there are a lot of gaps in it. That's when we have to phone back and get more clarification ...

Participants noted that it was common to receive incomplete or inaccurate referral forms and this was a major concern for the program. Participants reported that an incomplete referral form had information omissions and/or blank sections.

> Well there has been a lot of referrals that weren't filled out correctly, or were left blank, fifty percent blank ... it's a lack of information.
>
> ...without the referral information, [the screener is] trying to just do their own interpretation and fill in the blanks and you can't always fill them in correctly...

Inaccurate referral information was another challenge encountered during screening.

> For every referral I take time to check [seating status] ... and I find out that most of the dates [for when seating devices were received] are wrong.

In some instance, participants noted that referrals contained 'grey areas' - information that was provided but had potential to be misinterpreted. Grey areas were reported to be difficult to overcome.

> Sometimes for example, ... [referral agents] just write down back with laterals and that's true, but really its a personal back plus, so although it seems that it is a custom back, its really not ... and the client gets booked for the wrong clinic

> I would say that the problem is with knowing which clinic to assign the client to... even if the form is really well filled out ... because we have not seen the client we believe what is written down, and there are grey areas we can't do anything about

Participants felt concerned that extra time and resources were spent collecting missing information and confirming the accuracy of information.

> Lack of information and contacting referring therapists would be a delay. Because you have to call them and you might have to wait for a call back. If the therapists are working shorter than five days a week, then it is more of a time delay. It is difficult because actual working days or calendar days are going by ...

Missing referral information was typically obtained through discussion with the referral agent or seating team members, or by reviewing files and database information, which made screening less efficient. One participant suggested that the onus to provide the referral information should fall on the referral agent, and the program should not seek out the missing information, and instead should return incomplete form to the referral agent.

In summary, participants felt screening would be expedited if the referral information was complete and accurate so that less time was spent straightening out information. In addition, participants reported that having accurate referral information would allow the program to make informed clinical judgments.

Biii. Factors pertaining to the screener and his / her clinical judgment

The findings indicate it is the screener who reviews and interprets the referral information. The screener determines if the information is accurate and complete and decides if enough information is provided to make a clinical judgment. Ultimately, the screener makes a judgment based on the known information:

> I just use my clinical judgment to put them in the type of clinic I think is best, based on the information I have.
>
> I just use my judgment. If I call a therapist and I don't get a response back and it's taking awhile, because the referral will just be sitting down there, it will not be booked. So in that case, I just use my judgment to put them into whichever clinic.

The question is: What information does the screener need to have to be able to judge if the client should be assigned to a commercial or a custom clinic? According to one participant the answer was:

> There is some [specific] information that helps... the first one is, what the problem is ... when the therapist can tell that the client is leaning so much a commercial back is not supporting the client, then we know this is a custom [need]. And then also the seating components that the client had before helps to know what type of clinic to put them into.

Therefore, in order to make an informed judgment the screener needs to know whether the client has a custom or commercial seating device(s), the specific model of device(s), and the seating concern.

Participants reported that no screening standards were used in the program; however, they did describe the clinical rationale used to assign clients to commercial or custom clinic (see Table 9). The clients who had commercial seating devices or commercial and custom seating devices

were perceived to be the most challenging to assign to the appropriate clinic.

Table 9. Clinical Rationale used in Screening

Type of Client	Typical Clinic Assignment	Clinical Rationale for Clinic Assignment
1. Clients with no seating device	Commercial	Commercial seating devices would be trialed prior to custom seating devices
2. Client with commercial seating device(s)	Commercial or custom	The model and type of commercial device the nature of the seating concern are considered as the client may require either commercial or custom clinic
3. Clients with custom seating device(s)	Custom	Clients who have custom seating devices generally always require custom because their seating needs rarely improve
4. Client with commercial and custom seating devices	Commercial and/or custom	Client may require commercial and/or custom seating clinic depending on the seating concern

Relying on the screener's clinical judgment to assign clients to clinic created apprehension for some participants. One participant reported uncertainty with making clinical judgments:

> Looking at the form, deciding whether it should be commercial or custom is a very difficult decision. Perhaps if there where a guideline or a flowchart, then it would be easier to do and you could just be flown along to the most efficient outcome. I think there should be standards or a flowchart that would guide whoever is doing the screening to help make the decisions, because it's not a standardized procedure ...

The need for clear standards or guidelines was confirmed by another participant:

> I was asked to screen and decide if it was a commercial or custom need, but there are no standards that I've ever seen to follow to help make this decision...

In the absence of screening standards or guidelines, the screener is the tool used in the screening process. The screener's experience, educational background, and knowledge were felt to have favorable or adverse effects on the screening process. The characteristics of an ideal screener as described by participants are listed in Table 10.

Table 10. Characteristics of an Ideal Screener

1. Experience and knowledge with commercial and custom seating

   "Whoever is doing the screening should have the expertise, which whether it be overtime or just whatever knowledge they have, to help them interpret information once you got all the information".

   "You need to know all the products out there and their limitations. And that is not going to happen over night and the limitations of custom as well."

   "I think with the screening that's where experience comes in. I think it's very important if we have somebody that's got a lot of experience in seating, it's easier for them to determine which clinic to go into. Where if it's somebody that doesn't have the experience it's rather hard for them".

2. Screens referrals consistently and frequently

   "Consistency helps with expertise, when you have therapists who are quitting all the time...or relief therapists, then that just slows down that whole process".

3. Has dedicated time to do screening

   "I'm not sure how the time for screening is built into the therapist's time... ... ... it should be a task that is done on a regular basis".

In summary, screening may be influenced by factors related to the composition of the seating team, the accuracy of the referral information, and/or the screener. Depending on the influence of these factors screening will shift its position on the continuum (see Figure 5 and 6).

Figure 5. An Effective Screening Process.

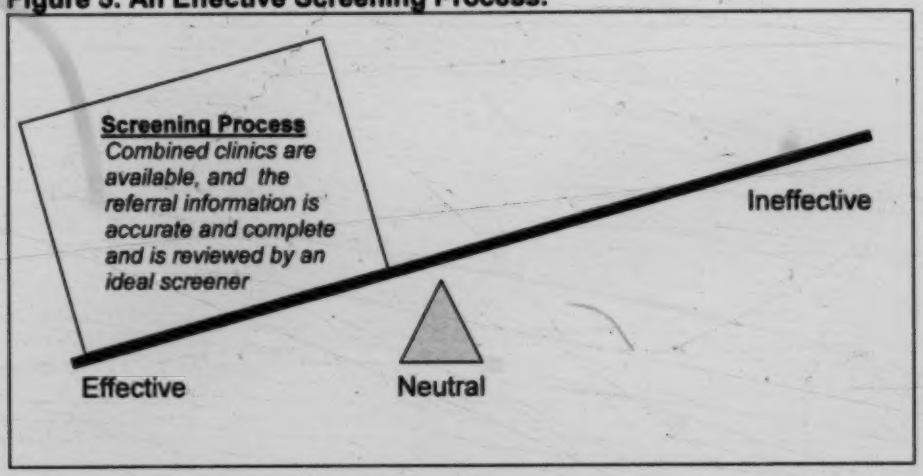
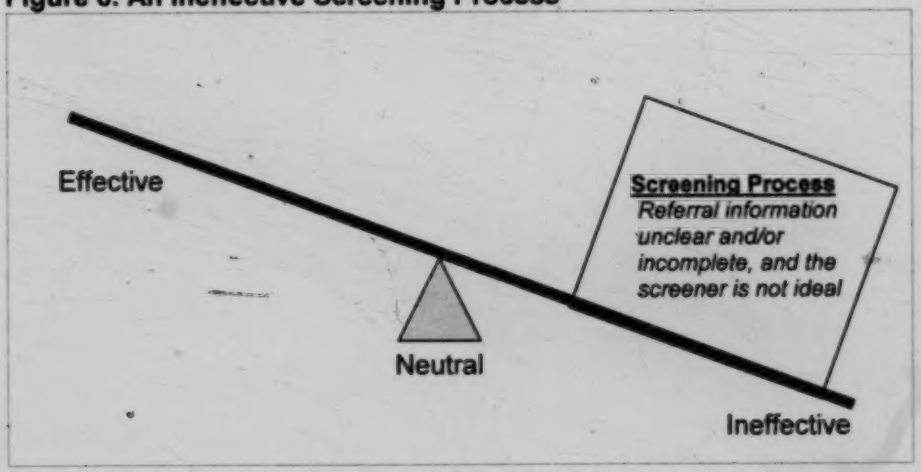

Screening Process
Combined clinics are available, and the referral information is accurate and complete and is reviewed by an ideal screener
Ineffective
Effective
Neutral

Figure 6. An Ineffective Screening Process



C. Prioritization Process

Participants reported no knowledge of prioritization criteria used in this seating program; except that clients were booked chronologically by the date referrals were received. Participants expressed their concern with the lack of prioritization:

> I'm not sure if there is any prioritization given to anyone to do with complexity or anything. As far as I know there isn't. And I've seen some pretty severe people that are waiting for months at a time to get in.

> I'm not sure how [clients] are prioritized. If it's first come first serve, or if there's even a process that if you've been waiting longer you get served first? ... are we aware of what priority means? Do you focus on skin and swallowing [issues], because that's more of a medical urgency? I doubt if that happens"

One participant reported that although no prioritization standards existed in the program, he/she gave priority to clients with skin breakdown (e.g., a pressure ulcer):

> If from the referral there is an issue with skin breakdown and the therapist requests it to be urgent. Sometimes there might be skin breakdown and there might not be an urgent need because the client may be hospitalized, or the client is already on the most pressure relieving cushion. So in that case I don't see it as being urgent.

Participants also reported that clients were frequently given priority when the referral agent asked, as illustrated in this statement:

> "If there is a special request from the [referral agent] that this should be an urgent case, then we make it urgent and we put the client in for the next available booking"

Participants reported this was not a good reason to prioritize a referral, yet it commonly happened.

In summary, the lack of prioritization was perceived as a weakness and the participants reported that the use of standards would help give precedence to those who needed it. Figures 7 and 8 illustrate the prioritization process on the continuum.

Figure 7. An Effective Prioritization Process.

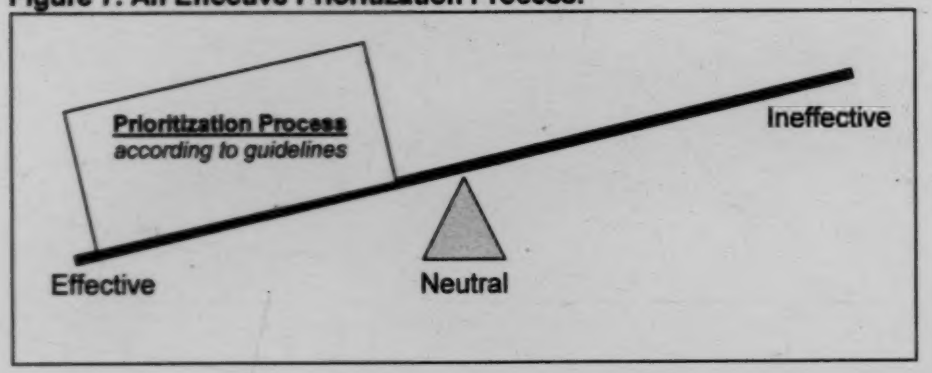
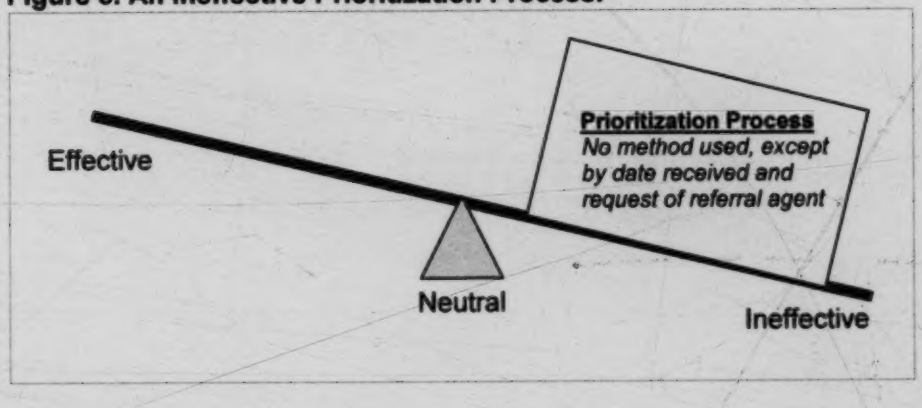


Figure 8. An Ineffective Prioritization Process.



Summary

The findings of the study showed that participants were aware that the assignment of clients to the appropriate clinic was important and that the timeliness of assignment and assessment was in need of improvement. The findings have given an account of participants' perceptions of the factors that impact processes and the achievement of the 'intake' objective. Chapter 5 – Discussion will explore recommendations to maximize strengths and overcome weaknesses in the intake processes.

Discussion

This study focused on participants' perspectives on the structure, processes, and outcomes of a seating program. An important objective for the seating program was a: "Client is assigned to the appropriate clinic (commercial or custom) and is assessed in a timely manner". The processes related to this objective were referral, screening, and prioritization. These processes were said to fluctuate along a continuum between effective and ineffective depending on the impacting factors. This study enriches our understanding of the intake processes of a seating program, and leads to suggestions for how to maximize strengths and how to overcome weaknesses.

Literature about seating programs and their processes is limited. However, information on referrals, screening, and prioritization in healthcare is available.

Maximizing Strengths and Overcoming Weaknesses

The development and implementation of a protocol would be one option to maximize strengths and overcome weaknesses in the intake processes.

Information from this evaluation and the literature could be used as the foundation for this protocol. The protocol should address the referral, screening, and prioritization processes while describing in detail the (a) referral form, (b) referral agent, (c) screening guidelines, (d) screener, and (e) the prioritization standards.

The Referral Form

A referral form is a link between the program, the referral agent, and the client (Jarret, 2004). In this study, the participants talked about the referral form and its content. The literature indicates that the form's content, design, and language level should be considered.

Form Content

Seating, rehabilitation, and medical programs use referral forms or referral letters as a method to request service. Referral forms commonly include sections on demographics, medical status, and reason for referral (Botting, 2003; Dunford et al., 2004; Makepeace et al., 2001; Reeder et al., 2004; Syed & Large 2003). A number of programs report that the later two sections are particularly useful and this agreed with the findings of this study.

Specifics on seating referrals were not described in the literature, and little was reported about seating status, wheelchair and base status, or preferred medical equipment supplier. A single report from McCuaig and Sebesta (2002) suggests that having information about seating and wheelchair status is helpful when reviewing seating referrals.

For certain etiologies photographs can reveal information about the problem. For example, photographs of pressure ulcers (Halsted et al. 2003; Houghton et al., 2000) and trauma injuries (Buntic et al., 1997) are useful sources of preliminary information when an assessment of the actual wound is not possible. Photographs may offer a similar benefit to seating by giving preliminary impressions of a client's seating needs.

Form Design

Research has shown that highly structured forms that use sections, headings, and/or checklists enhance the collection of specific health information (Cannon & Allen, 2000; Harrop & Amegavie, 2005; Humphreys et al., 1992; Schriger et al., 2000). In addition, paper forms that incorporate instructions and electronic forms that include real-time prompts (e.g., pop-up messages) tend to collect more complete information (Cannon & Allen, 2000; Ehrenberg & Birgersson, 2003;

Schriger et al., 2000). According to Wizowski et al. (2002) and Osborn (2005) the most effective forms use consistent fonts, spacing, shading, formatting, and alignments, as well as, logical sequences of information (e.g., from general to specific or most important to least important).

Form Language Level

The language level of a form should be tailored to the target audience (e.g., form users). For example, it may be appropriate to use medical and technical terminology on a referral form designed for clinicians; however, a form designed for clients should use simple, conversational language (Wizowski et al., 2002). Regardless of language level, it is helpful to give examples, definitions, and contexts for the information on a form (Osborne, 2005; Wizowski et al, 2002).

Sample Referral Form

The seating program may benefit from creating a paper or electronic referral form that incorporates the design and language elements described above. The form should include the sections that participants thought were most useful and should provide examples, definitions, and instructions. Figure 9 displays an example of a referral form.

Figure 9. Sample Referral Form

Seating Program Address, Phone, Fax	
Client Information Instructions for this section	
Name	
Date of Birth	
Health Number	
Address	
Home Phone	
Medical Status Instructions for this section	
Diagnosis	
Photographs Instructions for this section	
Seating Concerns / Reason for Referral Instructions for this section	
Type of Concern	**Description of Concern**
Pressure ulcer / reddened area	
Eating / feeding / swallowing	
Safety	
Discomfort	
Positioning	
Mobility	
Growth / Fit	
Other	

Figure 9. Sample Referral Form (continued)

Seating Status Instructions for this section		
Commercial Seating (definition and examples)		
Current Seating Device (e.g., back, cushion, etc.)	Date Received	Concern(s) with Seating Device
Custom Seating (definition and examples)		
Current Seating Device (e.g., back, cushion, etc.)	Date Received	Concern(s) with Seating Device

Wheelchair and Base Status Instructions for this section		
	Manual Wheelchair	Power Wheelchair
Model		
Frame Width		
Frame Depth		
Date Received		
Concern(s) with wheelchair		

Preferred Medical Equipment Supplier Instructions for this section		
Supplier #1	Supplier #2	Supplier #3

Referral Agent Information Instructions for this section	
Name	
Phone	
Date Referred	

The Referral Agent

The referral agent plays an important role in the referral process and his/her educational background, knowledge / experience, and familiarity with the program may have favorable or adverse effects on the referral process (Booting, 2003; Bowles, 2002; Dunford et al., 2004; Lard et al., 2001; Makepeace et al., 2001; Mensah, 2004; Nash, 1992; Reeder et al., 2004; Syed & Large, 2003). The intake protocol should outline who can act as referral agents and how referral agents will be educated about the program.

Who Can Act as a Referral Agent

To guarantee referral agents have the desired educational background restrictions can be placed on those who can act as referral agents (Dunford et al., 2004; Nash, 1992). Such a restriction can be beneficial and problematic. One benefit is that restriction requires a client to receive an assessment by the referral agent which is likely to identify concerns that need attention. Some concerns may warrant a referral to a program while others may be addressed by the professional themselves outside of the program (Dunford et al., 2004; Nash, 1992). Another benefit is that assessment by a referral agent helps to reduce the number of inappropriate referrals and this frees up the program to serve those clients

who need it most (Dunford et al., 2004; Nash, 1992). Finally, the referral agent is more likely than the client (Nash, 1992) or another professional (Dunford et al., 2004) to provide the pertinent referral information. One drawback is this professional becomes the gatekeeper to the program and this limits access for some clients (Nash, 1992).

In would appear that referral agents for the seating program should be restricted to occupational therapists or physical therapists who can provide the technical information (e.g., seating status) requested on the referral. In addition, the seating program could require occupational therapists and physical therapists to complete a specific education workshop as a means of accrediting referral agents.

Referrals from clients, families, or physicians should not be accepted. Instead, the seating program should redirect clients to occupational therapists or physical therapists in community or long term care. Redirecting clients could enable therapists to identify additional health issues that require attention and may improve the referral information sent to the program. As a result the seating program should spend less time clarifying referral information which reduces the waiting times for clients.

Education and Resources for the Referral Agent

The intake protocol should include referral guidelines that address information to be included on the referral, the services provided by the program, and the acceptable reasons for referral (Botting, 2003). These guidelines should be disseminated to referral agents by multiple methods (Hergenroeder et al., 2001; Idiculla et al., 2000; Sibbald, 2003) such as practical education workshops, brief information sessions, and written materials.

A half day, practical workshop could be organized for therapists with the aim of increasing their knowledge of seating and familiarity with the referral guidelines. The workshops might include a demonstration of a pre-referral assessment, followed by a series of work stations where the therapists would complete pre-referral assessments and referral forms with a variety of clients. The workshops could be offered at regular intervals (e.g., once every six months), and video recordings of the workshops made available to referral agents at all times. These workshops could be designated as the education for therapists who want to refer to the program.

Another option for disseminating the referral guidelines would be offering different lunch and learn sessions each month. These sessions would give a thirty minute overview of specific topics (e.g., services offered by the program or how to complete the referral form). Information in these sessions would be supported by written materials such as 'enablers'. Enablers are simple, precise summaries of the important information. Use of enablers is an effective method to reinforce learning and translate new knowledge into clinical practice (Sibbald et al., 1999). Enablers for the referral protocol could be posters or quick reference guides (see Figures 10 and 11). These enablers could be provided during workshops or information sessions, posted at work sites, attached to the referral forms, or presented on a web page.

Figure 10. Sample Enabler

Frequently Asked Questions About the Seating Program
What services are offered by the program? Answer:
What are the differences between the types of seating clinic? Answer:
Why should a client be referred to the program? Answer:
Where can I get a referral form? Answer:
Who can submit referral forms to the program? Answer:
What information is needed on the referral form? Answer:
How can I find out more information about the program? Answer:

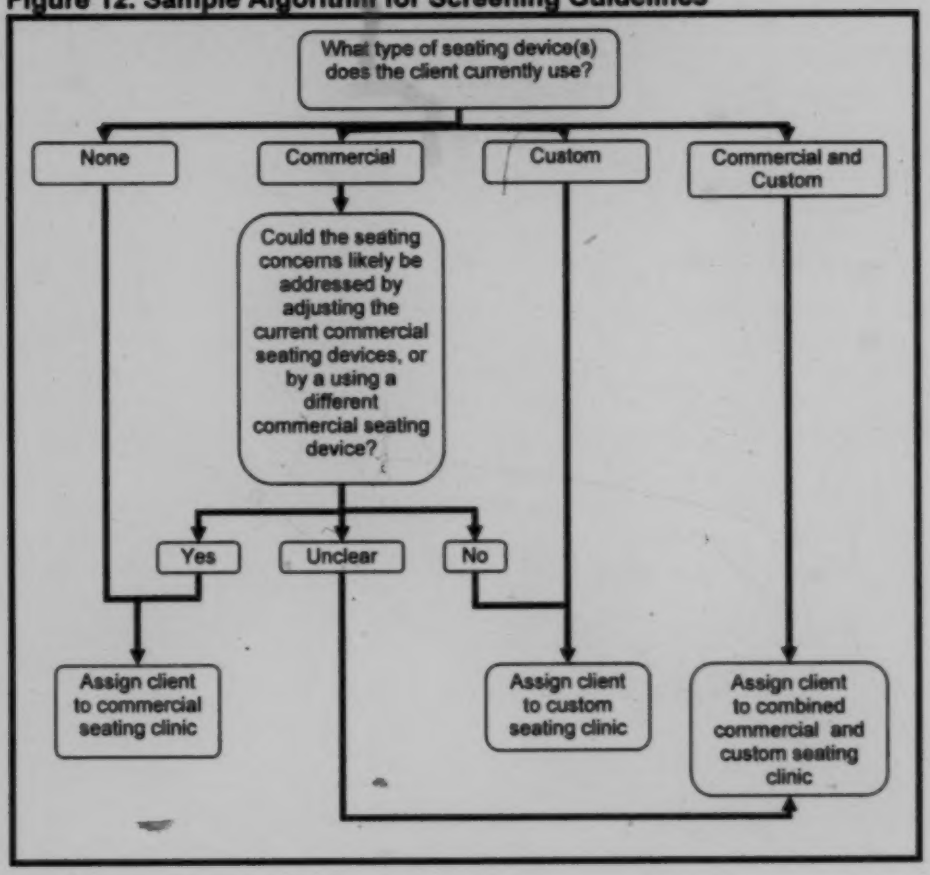
Figure 11. Sample Enabler

	Things You Need to Know about the Seating Program
Who	e.g., who can refer clients to the program and why is this restriction in place; who should attend seating clinic appointments, and who are the staff who work in the program
What	e.g., what services are provided by the program, including a description of the commercial and custom seating clinics, and what services are not provided by the seating program
When	e.g., when are seating clinics conducted
Where	e.g., where are clinics located, directions to the clinics
Why	e.g., why should a client be referred to the program, including a list of acceptable reasons for referral
How	e.g., how to access the program, including a description of the referral form to be used, where to get the referral form and explanations of the information requested on a referral form

Screening Algorithm

The intake protocol for the program should include a visual representation that shows the decision process of client screening and then assignment to each type of clinic. This information could be summarized in a decision tree or algorithm as shown in Figure 12. The use of an algorithm would promote consistency in the screening process.

Figure 12. Sample Algorithm for Screening Guidelines


What type of seating device(s) does the client currently use?
None
Commercial
Custom
Commercial and Custom
Could the seating concerns likely be addressed by adjusting the current commercial seating devices, or by a using a different commercial seating device?
Yes
Unclear
No
Assign client to commercial seating clinic
Assign client to custom seating clinic
Assign client to combined commercial and custom seating clinic

When screening referrals, participants considered the type of seating device used and the client's seating concerns. However, participants noted that it was not always easy to assign a client to a commercial or custom clinic. Therefore, the addition of a third type of clinic - a combined commercial and custom seating clinic – was suggested.

The use of a combined seating clinics is harmonious with 'matching' - the preferred method of seating device selection (Cook & Hussey, 2002; Hobson, 1990; Johnson Taylor, 1987; Minkel 2003; Pratt, 2003; Presperin; 1989). 'Matching' involves the generation of a client profile based on assessment findings. This profile summarizes the concerns or needs to be addressed by the seating system and is used to 'match' the seating device characteristics to the client's needs (e.g., lateral trunk support). The result of 'matching' is the provision of the actual seating devices that will best suit the client. Combined seating clinics are a good option for some clients who use commercial seating devices or hybrid seating systems.

The Screener

Within the context of the screening guidelines the screener will review and interpret the referral information and so having an experienced and consistent screener is important. Research has shown that an experienced therapist is better able to adjust his/her clinical reasoning process and to consider familiar and unfamiliar factors. (Embrey et al., 1996; Gibson et al., 2004). This suggests that an experienced occupational therapist or physical therapist would be better able to

interpret familiar and unfamiliar referral information within the context of the screening guidelines.

Prioritization Standards

The lack of prioritization in the program was perceived as a weakness and participants believed prioritization standards would enable them to give precedence to those clients who needed to be seen quickly. However, participants did not elaborate on the types of information they would use to prioritize clients.

McCuaig & Sebesta (2002) developed the 'Waitlist Scoring Guidelines' to prioritize seating referrals. This instrument examines seven areas of dysfunction, namely: pressure ulcers, falls, equipment status, eating, independent mobility, dependent mobility and health changes. Each area of dysfunction is given an individual score and the total score is used to assign priority. The higher the total score, the higher the priority.

Testing of the 'Waitlist Scoring Guidelines' found disagreement between the total scores for priority and the therapists' clinical impression of priority. McCuaig and Sebesta (2002) reported that the tool is not useful

as stand-alone assessment of priority, but serves well as a guide to the areas of dysfunction to be considered when assigning priority to clients with seating concerns. This report indicates that research would be helpful to shed light on the tacit reasoning used by therapists in the prioritization process.

Prioritization methods used by different professionals are described in the literature. For example, occupational therapists prioritize concerns according to the degree of occupational dysfunction - the inability to perform or accomplish a task in the normal or accepted way (Townsend, 1997). Reed and Sanderson (1992) suggest that occupational therapists should prioritize occupational dysfunctions related to self care; leisure; productivity; and the environment (i.e., physical, social, institutional, and/or cultural context of a task). Travers et al. (2002) report that nurses prioritize issues according to the level of medical acuity (i.e., the severity or risk associated with a medical concern).

The study participants did not talk about the specific types of information they would use to set priorities in the program. Rather, they gave a general indication that information about seating concerns and diagnosis

was useful (see Table 7) and said little about the value of information about the client's environment.

The seating program might want to re-consider the utility of information about the environment for prioritization purposes. Having this information would allow seating concerns to be prioritized in terms of medical acuity and occupational dysfunctions related to self care, leisure, productivity, and the environment. For example, clients with issues related to medical acuity (e.g. pressure ulcers) or safety (e.g., issues related to the client's living environment) would be given first priority; clients with significant occupational dysfunction (e.g. immobility) would be considered medium priority; and clients who require routine care or adjustments would be considered low priority. Table 11 describes seating concerns that might be considered a high, medium, or low priority and gives examples of each.

Table 11. Level of Priority for Seating Concerns

Priority	Description	Example of Seating Concerns
High	Issues related to medical acuity or safety	Pressure ulcer or reddened area Eating / feeding / swallowing Safety / Environmental Issues
Medium	Issues related to occupational dysfunction	Discomfort Positioning Mobility Motor Control
Low	Routine Care	Size of seating / growth / routine adjustments

Methodological Concerns

The Program Evaluation Standards developed by the Joint Committee on Standards for Education Evaluation (1994) were used to strengthen trustworthiness in the study reported in this thesis. Specific issues related to trustworthiness are identified here.

Issues Related to Utility

A purposeful sample of seating therapists and seating technicians was chosen for their important, rich and differing experiences with the program. This subset of stakeholders served the purpose of this evaluation; however, research including other stakeholders has potential to expand what is known about seating programs. For example, clients and family members will have opinions about their satisfaction or dissatisfaction with the program, and referral agents will have experiences of referring to and working with the program.

The utility of research findings can be influenced by the study design. For this study a program evaluation approach was chosen. This approach was appropriate because few well designed studies existed on the topic and more information about program evaluation is desirable (Letts & Dunal, 1995). Qualitative research methods were used because little was

known about the seating programs or their operations. These methods were appropriate for gathering in-depth information, assigning meaning, and developing an understanding of the seating programs (Blumenthal & DiClemente, 2004). A formative process evaluation was chosen to fit with the research questions. This approach gave an understanding of the program operations to help build on strengths and modify areas of weakness.

Issues Related to Feasibility

Approximately four months after data collection an overview of the evaluation findings was reported to the chairperson of the facility's research and design committee and to the seating program leader. Eight months after that a complete written evaluation report was forwarded to the chairperson of the research and design committee. In addition, an offer was extended to the program to give a more comprehensive talk to the program employees, program leader, chairperson of the research and design committee, and representatives from the facility's administrative staff.

The program has initiated changes to its intake processes. These changes suggest that this program evaluation revealed information that was important, useful, and practical for the program to know. To date the program has

developed and circulated a revised referral form and is working toward offering combined seating clinics.

Issues Related to Accuracy

This study involved an evaluator who had experience with the program as a casual employee and as a referral agent. Prior to commencing data collection, the evaluator acknowledged and recorded biases; she then regularly checked and verified biases during data analysis. In the end, member checking and analysis audits ensured that the research findings were representative of the participants' perspectives.

Limitations of this Study

This study involved a seating program that is managed in part by the administration of a long term care facility and by the provincial government. Consequently, the participants' perspectives may have been influence by an awareness of the pressures felt by administration to shorten the waitlist, sustain fiscal viability, and meet the expectations the provincial government.

The primary researcher in this study was an occupational therapist who had worked for and acted as a referral agent to this program. This meant the evaluator had internal knowledge of the program and this brought

benefits and challenges to this study. One benefit was that the participants were acquainted with the evaluator and this eased communication between the evaluator and the participants. Another benefit was that familiarity with the program and its context facilitated a clearer understanding of the data collected. One challenge was the evaluator's internal knowledge of the program lead to a potential for bias. An audit trail and member checking were used to minimize the bias and helped to ensure the findings were representative of the participants' perspectives.

Directions for Future Research

The body of knowledge on seating programs is currently small and more research is needed to expand what is known. Information and understanding about seating programs could be enhanced through a number of approaches. First, research involving other stakeholders (i.e., referral agents, clients, funding agents, etc.) would bring depth to what is know about seating programs. Second, the development and validation of screening guidelines for commercial versus custom versus combined seating would be valuable in order to more effectively and efficiently judge the type of seating needed by a client. Third, research on occupational dysfunctions experienced by seating and wheelchair users should be

conducted to determine the type of client and/or the type of dysfunction that should be given the highest priority for seating assessment and intervention. Fourth, investigation into the tacit reasoning associated with the prioritization of seating concerns should be carried out to better inform the precedence for clinic appointments. Fifth, research about the processes and outcomes of seating programs related to assessment, intervention, and follow-up should be considered to expand the understanding of seating programs, their processes, and outcomes.

Summary of Findings and Recommendations

This chapter presents an overview of the evaluation findings and recommendations (see Tables 12, 13, 14). Figure 13 is an algorithm that outlines the steps of the intake protocol from the referral process through to the prioritization process.

Table 12. Summary of Program Structure, Processes, and Outcome

Program Area: Intake		
Program Structure	**Program Processes**	**Program Outcomes**
Non Human Resources: - Referral form - Method to deliver referral form to program (i.e., fax, mail, drop slot) - Method to receive referral form (i.e., fax, mail, drop slot) - Seating program office space - Communication devices (i.e., telephone, voicemail, and email) - Seating program file, data base(s) and/ or spreadsheet(s) - Provincial tracking system for equipment - Photographs of client (when available) **Human Resources:** - Referral agents - Seating Program Occupational Therapist - Seating Program Physical Therapist - Custom Seating Technician - Medical Equipment Supplier - Seating Program Administrative Assistant - Seating Program Relief Staff - Provincial Government Funding Program Representative	**Referral Processes:** 4. Referral agent recognizes a need for a client to be referred to seating program 5. Referral form is filled out by referral agent 6. Referral form is faxed, mailed or dropped off to the seating program by referral agent **Screening Processes:** 4. Referral is screened by the program occupational therapist or physical therapist 5. Program occupational therapist or physical therapist(s) collects additional information as needed from alternative sources 6. Program therapist formulates a clinical judgment to assign the client to either a commercial or custom seating clinic a. If client is assigned to a commercial clinic, he/she is assigned to the medical equipment supplier of his/her choice **Prioritization Processes** 2. Client is prioritized according to date referral received or another method	**Intake Objective:** Client is assigned to the appropriate clinic (commercial or custom) and is assessed in a timely manner

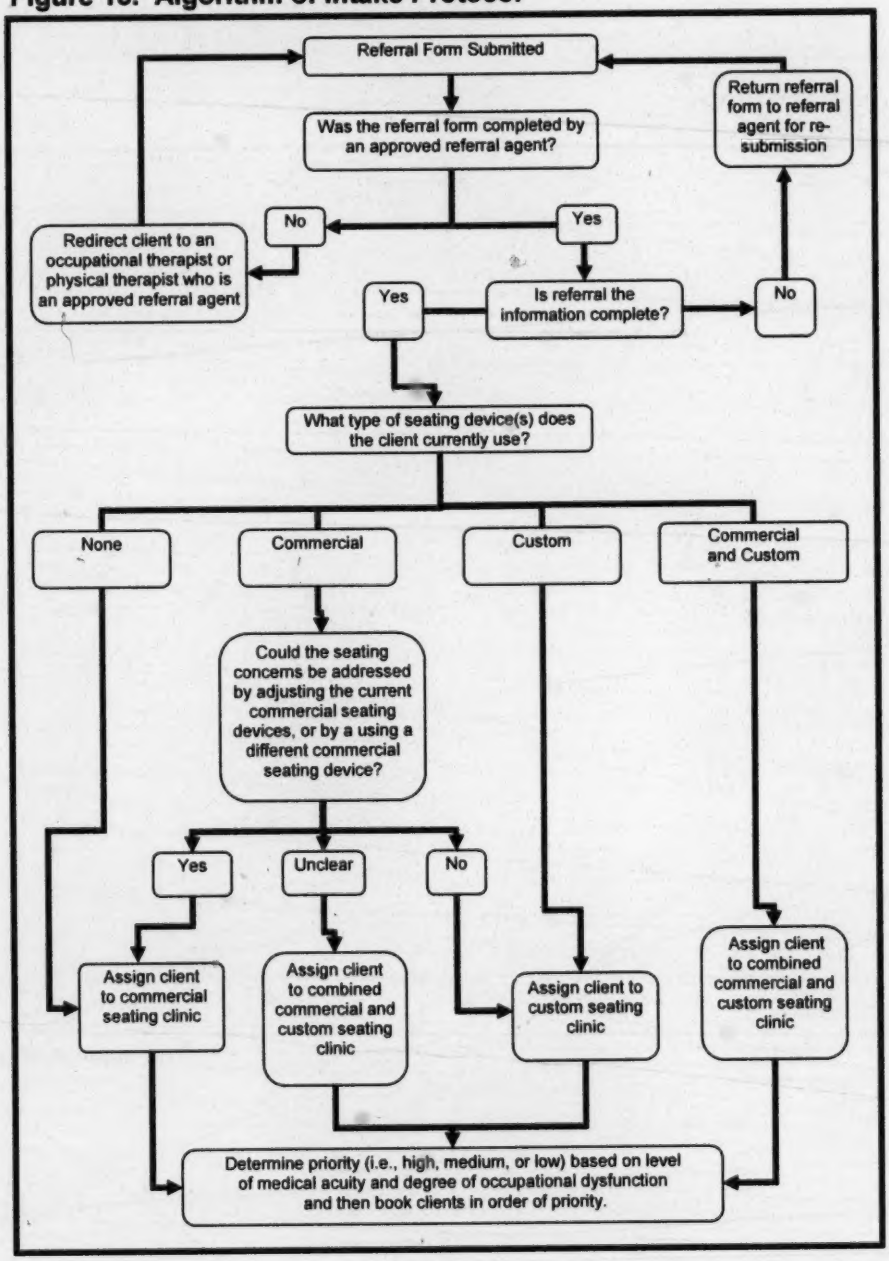
Table 13. Factors Impacting the Effectiveness of Intake Processes

Intake Processes	Factors
Referral	The referral form The characteristics of the referral agent
Screening	The composition of the seating team The accuracy of the referral information The screener and his/her clinical judgment
Prioritization	The lack of prioritization method

Table 14. Summary of Recommendations

Overall Recommendation
Develop and implement an intake protocol to address referral, screening and prioritization process
Specific Recommendations
Referral Process 1. Use a highly structure referral form that is tailored to the referral agent. The form should include important content and instructions (see Figure 9). 2. Develop, implement, and disseminate referral guidelines i. Disseminate referral guidelines through practical workshops, lunch and learn sessions, video-recordings and written resources (i.e., enablers). ii. Accept referrals from occupational therapists or physical therapists who have completed the education sessions and are accredited by the seating program iii. Do not accept referral from clients, families and physicians directly; redirect client to appropriate referral agents
Screening Process 1. Establish and implement screening guidelines to be followed when making a judgment about the appropriate clinic for a client i. Consider offering three types of seating clinics (i.e., commercial, custom, and combined commercial and custom). ii. Designate an experienced occupational therapist or physical therapist to consistently screen referrals and make clinical judgments based on the screening guidelines
Prioritization Process 1. Develop and implement prioritization guidelines i. Prioritize concerns according to the level of medical acuity, the degree of dysfunction, and environmental considerations ii. List the types of seating concerns that would be given high, medium, and low priority iii. Offer appointments to clients with higher priority needs first

Figure 13. Algorithm of Intake Protocol


Referral Form Submitted
Was the referral form completed by an approved referral agent?
Return referral form to referral agent for re-submission
No
Yes
Redirect client to an occupational therapist or physical therapist who is an approved referral agent
Yes
Is referral the information complete?
No
What type of seating device(s) does the client currently use?
None
Commercial
Custom
Commercial and Custom
Could the seating concerns be addressed by adjusting the current commercial seating devices, or by a using a different commercial seating device?
Yes
Unclear
No
Assign client to commercial seating clinic
Assign client to combined commercial and custom seating clinic
Assign client to custom seating clinic
Assign client to combined commercial and custom seating clinic
Determine priority (i.e., high, medium, or low) based on level of medical acuity and degree of occupational dysfunction and then book clients in order of priority.

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Appendix A: Letter of Information / Consent Form

UNIVERSITY OF ALBERTA

Program Evaluation of the Seating Clinic Program

Primary Investigator: Dr. Vivien Hollis, PhD, MSc, TDipCOT, OT (c)

Co-Investigator(s):
- Bethany Hutchinson, Occupational Therapist (c), Graduate Student
- Dr. Al Cook, PhD
- Dr. Shaniff Esmail, PhD

Purpose:
- This research project will look at the strengths and weaknesses of the program processes used by the Seating Clinic Program.
- The project will take place over 8 months. It will begin in April 2004. It will end in November of 2004.
- The project results will be shared with those in charge of the program, and will be used to satisfy degree requirements.

Procedure:
- You are invited to participate in this research. You are asked to share your thoughts on the Seating Clinic Program processes.
- Your thoughts on the program will be collected using a questionnaire and a private interview. The total amount of time you will be asked to take part in the project is 1 to 2 hours. You will be interviewed at your work location and during work hours.

Possible Benefits:
- The project will identify program processes that participants view as strong or weak. This information will help improve the program.

Possible Risks:
- It is possible that you may not be entirely happy with the results of the evaluation. This is because the results will not address any one person's agenda. Rather, the results will reflect the point of view of the participant group.

Appendix B: Paper & Pencil Questionnaire

Participant Code: ____

Introduction:

- This questionnaire will take approximately 10 minutes to complete.
- Remember that the information that you give will be kept confidential and will only be used as part of collated information. In any subsequent reports there will be no identifying information.
- You do not have to complete the questionnaire. You do not have to give a reason and it will not affect your standing with the program.

Instructions for Completion:

Please identify 3 program outcomes that you think are important **and** which you think could use improvement in the Seating Program.

A program outcome is the effect of the service on the clients at different stages in the program process. Depending on your area of involvement you might want to choose, for example, an outcome of screening, assessment, goal setting, intervention planning, equipment trial, fitting, intervention, or follow-up; or another outcome. Conversely you might want to consider the outcome of the service as the very end result of the intervention.

In the space provided, please name and briefly describe 3 program outcomes in the Seating Clinic Program that you think are important **and** which could use improvement

1. _____
   _____
2. _____
   _____
3. _____
   _____

Return the questionnaire in the envelope provided.
To: Bethany Hutchinson, MScOT Graduate Student, c/o 2-64 Corbett Hall, Faculty of Rehabilitation Medicine, University of Alberta. T6G 2G4

Appendix C: Interview Script

Part 1

Introduction:

Thank you for agreeing to take part in this study. As you probably know, I am part of a team from the University of Alberta who are investigating what people working with the Seating Clinic Program think about the program. As part of the study we are speaking to the program staff to hear their perspectives on the strengths and weaknesses of the program processes.

Can I check that we have your consent form and that you have a copy of the information about the study?

We have set aside a couple of hours but you should decide when you have had enough for today. We will probably finish long before that. We can always come back another time if you would like but we can decide that at the end of the interview.

This interview will be tape recorded for later transcription. I would just like to remind you that all information that you give will be kept confidential and will only be used as part of collated information. In any subsequent reports there will be no identifying information.

Demographic Questions:

I would like to begin my asking you a few questions about your involvement with the clinic.

1. How long have you been involved with the Seating Clinic program?
2. Tell me about your work with the Seating Clinic program.
3. What type of training or experience do you have?

Part 2

Introduction to Donabedian Exercise:

We are going to begin the interview by completing an exercise together. (Give interviewee a copy of the form). This exercise will related to the

common program outcome identified by the group as needing improvement. Or, if you identified three program outcomes that were different, you can choose one program outcome that you wrote on the questionnaire or the common program outcome to use in this exercise.

On this form you will notice there are three columns. The left hand column is named Program Structure, the middle is named Program Process and the right hand column is named Program Outcome. In each column we are going to write down things that relate to these three topics. First, I will explain what type of information goes in each column.

- Program outcome refers to the effect of the service on the clients at different stages in process or the effect of the service as an end result of the intervention. Program outcomes were the items you described in the questionnaire.

- Program process includes things like what is actually being done in the program, as well as strategies, procedures, or actions taken in the program.

- Program structure includes things like the characteristics of the setting and facilities, the human and non human resources in the program, as well as, the level of expertise of staff.

I am now going to review the steps of the exercise. We will start the exercise by completing the right hand column titled Program Outcomes. Once we complete this column, we will work backwards to fill in the other two columns. We will identify the program processes connected with the program outcome listed in the right hand column. Then, we will fill in the program structure items that are connected to the program processes listed in the middle column. After we complete the form I will ask you about your perspective on the strengths and weaknesses of the program processes we have outlined in the middle column.

Is there anything you would like to ask about this exercise before we begin?

Questions related to Donabedian Exercise:

So, let's start by completing the Program Outcome column. Remember, earlier I said this exercise with relate to the common program outcome

identified by the group as needing improvement, lets write that outcome down now. Or, if you identified three program outcomes that were different, you can you choose one program outcome that you wrote on the questionnaire or the common program outcome.

1. Which outcome do you choose?
2. What made you choose this program outcome?

Next, let's complete the Program Processes column.

3. Can you think of things that actually happen in the program when working toward ..... (i.e., program outcome)?

   Probe: What strategies, procedures, actions, or processes are used to work toward the program outcome?
   What steps need to happen in order to move toward the achievement of the outcome?

Next we should complete the Program Structure column.

4. What structural things are involved in the processes we have just written down in the middle column?

   Probe: What space, materials, and/or resources are used in the process?
   Who is involved in the process?
   What are the roles of the people involved in the process?
   What is the level of expertise of the people involved in the process?

Part 3

Process Strengths & Weaknesses Questions:

Now I would like to talk in more detail about the processes we wrote down in the middle column. These may or may not relate to the structure that we have just recorded.

5. So tell me - what processes work well / do not work well when trying to achieve ..... (i.e., program outcome)?

6. What are the particular parts of the process that are strong / weak?

Probe: Can you expand on that?

7. What things support or help you to achieve ..... (i.e., program outcome)?

   Probe: What else would help you to reach the outcome?

8. What barriers or hiccups have you encountered in the process?

   Probe: What is the source of the barrier or hiccup?
   Are there more?
   When does the barrier or hiccup usually occur?

9. How do you manage when you encounter barriers or hiccups in the process?

   Probe: What other supports do you use?
   Where do you get help? Who helps you?
   Have you discovered any ways around the barriers?

10. What do you think would make the process work better?

    Probe: What needs to change?
    What should remain as it is now?

Is there anything else you would like to tell us about the program?

Team Members
Bethany Hutchinson, BScOT, Graduate Student
Dr. Vivien Hollis, PhD
Dr. Al Cook, PhD
Dr. Shaniff Esmail, PhD

Bethany Hutchinson, MScOT Graduate Student, 2-64 Corbett Hall, Faculty of Rehabilitation Medicine, University of Alberta. T6G 2G4

Appendix D: Exercise Form

Participant Code: _____

Program Structure (e.g., characteristics of the setting and facilities; the human and non human resources in the program; the level of expertise of staff)	**Program Processes** (e.g., what is actually being done in the program; and strategies, procedures, or actions taken in the program)	**Program Outcomes** (e.g., the effect of the service on the clients at different stages in process or the end result of the intervention)